

148. *NYROCA FERRUGINEA* (Gm.).

This is the commonest Duck in Kashmir. We saw numbers in April, and they seemed equally common in June. We took one nest at Gandarbāl, in a marsh. It was a large structure, composed of dried reeds and down, and contained six partially-incubated eggs. Other eggs were brought to us, some as early as May.

149. *TACHYBAPTES FLUVIATILIS* (Tunst.).

The Little Grebe breeds abundantly on all the marshes and lakes in the Kashmir Valley. We obtained many nests on the 25th June; the largest number of eggs in any nest was seven.

150. *LARUS RIDIBUNDUS* Linn.

We saw a number of Gulls on the Dal Lake on the 28th April. They were too wild for us to obtain a specimen, and as they were not in breeding-plumage we cannot be certain, but they seemed to be of this species.

151. *HYDROCHELIDON HYBRIDA* (Pall.).

We found this Tern breeding in large numbers on most of the marshes. We obtained many eggs on the 25th June, mostly fresh, but some incubated; they were laid on floating weeds.

II.—*A List of the Birds of the Island of Rotumah.*

By H. GADOW, M.A., Ph.D., F.R.S.

MR. J. STANLEY GARDINER, B.A., Caius College, Cambridge, a member of the Coral-boring expedition to Funafuti, went afterwards in H.M.S. 'Penguin' to Rotumah, a small island 300 miles north of the Fiji group, where he spent three months, from September to December 1896. He collected there examples of the following birds, which, preserved in spirits, he has presented to the Cambridge Museum of Zoology. The field-notes have been copied from Mr. Gardiner's diary.

I am indebted to Dr. R. B. Sharpe for naming the specimens of *Aplonis tabuensis* and *Ptilopus porphyraceus*, as

I was not able to determine them satisfactorily from the descriptions and keys as given in the 'Catalogue of Birds.'

1. MYZOMELA CHERMESINA Gray.

Four adults, one nestling. Native name "Arumea."

This species occurs also on the New Hebrides, while its nearest ally seems to be *M. rosenbergi* of New Guinea.

It breeds in Rotumah in October and November, placing its nest in any fork formed by the twigs of the lifo tree (*Calophyllum inophyllum*). The nest is made of grass and rather deep. The eggs, numbering from three to five, are white, with a few red spots, very large for the size of the bird.

2. PINAROLESTES (MYIOLESTES) VITIENSIS Hartl.

Four adults. "Fa-aire."

This species shows distinctly Fijian influence; the genus ranges from this group to New Guinea.

3. APLONIS TABUENSIS (Gm.).

Five adult, one nestling. "Husela."

The eggs are blue, rather smaller than those of an English Thrush, with light brown spots and splashes.

4. LALAGE PACIFICA (Gm.).

Four adults, one young. "Jea" or "Chea."

The nest is very similar to that of the *Myzomela*, but the eggs are never more than three in number, according to native accounts. This species occurs also at Fiji, Tongatabu, and Samoa.

5. ASTUR CRUENTUS (Gm.).

Astur rufitorques Peale = *Accipiter rufitorques* Hombr. et Jaeq.

This bird, called "Jerleva," has been repeatedly seen in Rotumah, but was not obtained by Mr. Gardiner. It is known also from the Fiji group.

6. STRIX FLAMMEA Linn.

Two adults. "Ruru."

7. *PTILOPUS PORPHYRACEUS* (Forst.).

Two smaller and two larger adult specimens. Called "Ku-ku," from its note *cu-cu-cu*, &c.

8. *CHARADRIUS FULVUS* Gm.

One adult in winter plumage. "Juli."

9. *TOTANUS INCANUS* (Gm.).

One nearly adult. "Juli."

10. *RALLUS (HYPOTENIDIA) PHILIPPENSIS* Gm.

Two adults. "Vea."

These birds have very slight traces of the ochraceous pectoral band: in agreement with Fijian and Philippine, and in opposition to Australian specimens. They were shot nearly on the top of a hill. The nest, November 3rd, was between two buttresses at the root of a tree. It was composed of bits of sticks and old leaves, with a depression of from three to four inches, in which were four eggs resembling in every particular those of the Landrail (*Crex pratensis*).

11. *PORPHYRIO SMARAGDINUS*, Temm.

Two adults. "Kale."

12. *ANOUS LEUCOCAPILLUS* Gould.

One immature. "Lagea."

At Funafuti these birds nest in great numbers on one island to leeward, and on another island to the south of the large one. Their nests absolutely cover the trees, a species of *Hibiscus*, and are placed on every branch where a twig comes off. On one tree alone I counted ninety-three nests, and on several others there were quite as many. They consist of leaves with a few twigs, are two inches thick and about seven inches across, the whole plentifully covered with fæces, remains of fish, &c. The breeding-season continues through June and July. Never more than one egg is laid, which at first is white, blotched at the larger end with blood-colour. Later on the egg gets browner and the spots become more blackish. The young birds are hatched with a covering of slate-coloured down, and have from the first a trace of the

white crown. The note of the adult is similar to, but harsher than, that of the larger species.

13. ANOUS STOLIDUS (Linn.).

One immature. "Nogo."

In Funafuti the nest is usually placed at the summit of a pandanus branch, completely surrounded by the broad, lanceolate leaves. The nest is made of pieces of coconut and pandanus leaves, twigs, &c., and is usually from six to ten inches thick, by ten inches across. In the centre is a slight depression for the single egg. The breeding-season is from the middle of May to the end of June. The young seem to be fed principally on sea-molluscs, as plentiful pieces of shell are to be found round and on the nests containing young. The note of the parents is a sort of "cor-r-r-r." This is made use of by the natives to lure the bird at night from the top of a tree; they catch it as it swoops down. A party of five or six natives will thus often catch a hundred birds in a night on one of the uninhabited islands to leeward.

These thirteen species of birds are all which Mr. Gardiner has obtained or observed at Rotumah, and he thinks the list is complete so far as native land-birds are concerned. It is interesting to note that the majority of the land-birds occur also on the Fijian islands, e. g. *Ptilopus*, *Pinarolestes*, and *Astur*. The species of *Aplonis* and *Lalage* point still further south, to Tonga. The *Porphyrio* and *Rallus* both have a wide distribution, while the little *Myzomela* occurs also on the New Hebrides and on Ponapé, in the Carolines. It is significant that but one of the species of Rotumah, namely *Lalage pacifica*, occurs in the Samoan Islands.

I append a list of the species of which specimens were obtained at Funafuti, in the Ellice group:—*Totanus incanus*, *Numenius tahitensis*, *Charadrius fulvus*, *Streptilas interpres*, *Limosa uropygialis*, *Anous stolidus*, *A. leucocapillus*, *Gygis candida*, and *Demiegretta sacra*. The following species was observed, but not obtained:—*Carpophaga pistrinaria*. This is the only typical and native land-bird at

Funafuti, where it is not common, being found only in the south-western corner of the island.

Lastly, while at Fiji, Mr. Gardiner had the good luck to shoot a specimen of the rare *Leptornis viridis*, and has brought it home well preserved in spirit. He observed three of these birds at Taviani in a crater-like depression, 2200 feet above the sea-level, surrounded by swamp overgrown with trees. He distinctly denies the correctness of Liardet's report that these birds "creep" on trees (*cf.* Layard, P. Z. S. 1875, p. 432).

P.S.—I take this opportunity of respectfully answering the following remark of Count Salvadori, which I have recently noticed in *Cat. Birds*, vol. xxvii. p. 495, anent *Crypturi*:—"Dr. Gadow defines the *Tinamiformes* . . . and places them between the *Falconiformes* (!) and the *Galliformes*." The fact is, I do no such thing. Both groups not only belong to different "Regions," but even to different "Brigades" of my System. How would the justly-renowned Italian authority relish the analogous statement that he "places the *Crypturi* between the *Chenomorphæ* (!) and the *Ratitæ*," or "near the *Goosanders*"?—H. G.

III.—*On the Terrestrial Attitudes of Loons and Grebes.*

By DR. R. W. SHUFELDT, C.M.Z.S.*

My attention has recently been invited by Mr. H. H. Brimley, the Curator of the State Museum of Raleigh, North Carolina, to an interesting question in regard to the normal attitudes assumed by the Loons and Grebes (*Pygopodes*) when removed from their natural element, the water, and placed upon dry land or elsewhere, and to the mode of locomotion of these birds when on shore.

In a letter to the present writer, Mr. Brimley says:—

"The snowstorm of three weeks ago brought an unprecedented influx of Loons into this locality, several of which came into my hands. One I had alive for a short time, and

* On this subject see *Bull. B. O. C.* vi. p. xxiv.